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NOTES ON MICROSCOPIC SHELLS FROM NEWPORT BAY, CALIFORNIA

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Newport Bay has long been a favorite collecting ground for southern California collectors. Containing over ten miles of tidal channels navigable for small boats, extensive areas of mud flats, some sand beaches and a few rocky areas, conditions favorable to nearly all the species living in the bays can be found. A search for the microscopic species, so numerous in the tide pools and shallow dredging outside, has only resulted so far in locating the habitat of a few.

In many places along the sides of the channels at and below low tide line there is a luxuriant growth of the bay eel-grass, *Zostera marina* L. In certain places in the bay, but not everywhere, *Barleeia subtenuis* Cpr. has been found in abundance on the stems and blades of this grass, and in all stages of growth. The species seems to be confined to this particular species of grass, which is replaced in the tide pools outside by *Phyllospadix terreyi* Wats. on which *Barleeia haliotiphila* Cpr. is found. *Cypracolina pyriformis*

Cpr. is also found on the bay eel-grass, and seems to be more widely distributed over the bay. This species is not so particular as to its food, as it is found on both species of eel-grass, and is reported as ranging from Alaska to Mazatlan.

The most satisfactory way to collect these shells that we have found is to wash them off the grass under water and over a fine screen resting on the bottom. In this way a large amount of grass can be washed in a short time and the shells which have settled on the screen picked out at home. For this work we have found that a screen of at least twenty meshes to the inch is required to retain the smaller shells.

Above the edge of the eel-grass at many places the fine trails of *Acteocina inculta* Gld. are found in clear spots of sandy mud. The shell itself can seldom be seen on the surface, but if the mud is scooped up and washed through the fine screen they will be found to be present in great numbers, varying all the way from ivory white to dark brown in color, and in sizes up to 5 mm. in length. This is one of the most numerous and widely distributed mollusks in the bay but its habitat is confined to sandy mud between tides.

Associated with the *Acteocina* and at only one point in this bay as yet located, *Epitonium subcoronatum* Cpr. has been collected in large numbers. There is nothing to indicate the presence of this species tho it lives just under the surface of the mud, and my largest specimen of 9 whorls measures 11 mm. in length. Dead shells or stray specimens are seldom seen, and a colony can only be located by systematic search or by accident.

Along the bay shores back of the mud flats at extreme high tide line the salt-grass is covered in places by a wind-row of drift. The moist ground under this is the home of the little shining brown *Syncera translucens* Cpr., where they are to be found in great numbers. The dead shell of this little air breather is hard to distinguish from that of

Barleeia subtenuis Cpr. but tho living so close together, the habitat is very different.

Every pile, rock, or other solid object which has been in place in the bay for any length of time is covered with *Ostrea lurida* Cpr. Living on these is the only *Odostomia* known to live in the bay, *Odostomia fetella* D. & B. These little shells, the adult only 4 to 5 mm. in length, are rather hard to see until one learns just where to look for them. They are always on the living oysters in the clumps and in spots clear of mud coating, be that spot ever so small. Beyond this there seems to be no fixed position. While this species is commensal with *Ostrea lurida* Cpr. it has not been reported from the northern end of the range of that species. Upwards of a hundred specimens collected in a single afternoon not long ago shows that it is not to be considered as a rare species.

Associated with the oysters there is a sponge-like growth for which I have not been able to find a name. It grows in clusters of finger-like projections two or three inches long and is of a yellowish or yellowish-green color. In the folds and around the base of the fingers of this sponge are two species of *Cerithiopsis*, living either singly, or in clusters or family groups. They are attached to the surface of the sponge by means of mucous threads and are not imbedded in it. The two species live together and look much alike but are easily separable with a good hand lens. The adult specimens reach a length of 8 mm. but the majority of the specimens found are smaller. They have been identified as *Cerithiopsis carpenteri* Bartsch and *Cerithiopsis pedroana* Bartsch.

Extreme low tide exposes a considerable portion of the inner entrance bar which is formed of clear sand. Many strays from deep water have been picked up here, and a couple of years ago an area of about an acre was found to be the home of *Acteocina magdalenensis* Dall. For several months the shells were present in large numbers but they gradually disappeared, hardly entirely due to the activities

of the collectors, and have not been seen again. This is the shell that was listed by the early collectors as *Acteocina infrequens* C. B. Adams, a shell that is now considered to be a distinct Panama species. This seems to be the only time that they have ever been collected in any numbers. At about the same time *Turbonilla tridentata* Cpr. was found plentifully in the sand along the edge of the bar at extreme low tide line, some fine specimens 15 mm. in length being secured. These also disappeared in a short time, but stray specimens found in other parts of the bay indicate that they are at least periodic visitors.

Stray specimens and dead shells of several other species of small shells have been found in the bay, and indicate that it is their habitat or that they are periodic visitors. The exact locality for these is yet to be found, but when they are located they will probably be found to be present in as large numbers as are those which we now know.

PITARIA IDA, A NEW RECENT SPECIES FROM SITKA,
ALASKA

BY NELLIE MAY TEGLAND

Museum of Paleontology, University of California

Type: No. 31526, Mus. Pal., Univ. of Calif.

Left valve: Shell thin, chalky, surface finely striated and roughened by growth lines and bearing remnants of a thin brown epidermis; outline regularly ovate, beak small, anterior and sharply recurved; lunule comparatively large, not depressed, clearly outlined by incised line. Hinge plate normal, with low sharp lamella close to posterior dorsal margin, two well developed cardinal teeth joined in an arch